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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/821,355

04/08/2004

Lee Wai Tin

1204

42794

7590

09/25/2006

DENNIS W. BEECH (LAW OFFICE OF DENNIS W. BEECH)

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EXAMINER

LU, ZHIYU

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/821,355 | Applicant(s) TIN, LEE WAI | |
| | Examiner Zhiyu Lu | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 2-3 and 7-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 2, Applicant claims “selecting all combinations of two of the frequencies remaining wherein each combination of two frequencies has at least 6 frequency steps separation”, which is disclosed only in page 5 lines 30-38, paragraph 0012, of the Specification. There is no disclosure on which and how the six frequency steps separating each combination of two frequencies.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 1, 4-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labedz (US Patent#4302817) in view of Reed (US Patent#4107471) and Motohashi et al. (US Patent#6845165).

Regarding claim 1, Labedz teach usage of intermediate/center frequency in CTCSS (inherent frequency bandwidth of 67Hz to 254Hz) to minimize sensitivity to vibration in mobile units and to noise in noisy transmission environments (column 2 line 22 to column 3 line 28, column 6 line 51 t column 7 line 5).

But, Labedz does not disclose utilizing intermediate frequencies to increase channel capacity; eliminating each frequency selected in selected intermediate frequency that is less than 100 Hz and each frequency that is greater than 200 Hz; and selecting all combinations of two of the frequencies remaining after the elimination.

Reed teaches a method of using intermediate frequency to enable additional channel capacity as well as resulting in a great improvement in receiver sensitivity with an increase in transmission efficiency (column 2 line 64 to column 3 line 50).

Considering Reed disclosing two intermediate frequencies, for enabling more additional channel capacity, it would have been obvious to one of ordinary skill in the art to utilize all combinations of two of the frequencies after filtering out unusable frequencies.

Motohashi et al. teach normal output voice band of 100-200Hz, which would have been obvious to one of ordinary skill in the art to know the voice band and incorporate into the method as cutoff frequencies to deliver effective output.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and utilize intermediate frequencies taught by Reed into the CTSS

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system of Labedz within usable frequency range taught by Motohashi et al., in order to increase CTCSS system channel capacity with delivering effective output.

Regarding claim 6, Labedz, Reed, and Motohashi et al. teach a communication system produced to transmit and receive signals have a frequency structure as applied to claim 1.

Regarding claim 5, Labedz, Reed, and Motohashi et al. teach the limitation of claim 1.

The combination of Labedz, Reed, and Motohashi et al. also teach d) transmission of a combined single frequency tone and dual frequency tone in combination with an audio signal for receipt by a receiver, as applying generated frequency tone for the continuous tone controlled squelch system.

Regarding claim 10, Labedz, Reed, and Motohashi et al. teach a communication system produced to transmit and receive signals have a frequency structure as applied to claim 5.

Regarding claim 4, Labedz, Reed, and Motohashi et al. teach the limitation of claim 1.

Labedz, Reed, and Motohashi et al. do not expressly disclose d) selecting a channel number for each dual frequency tone in accordance with the following table (TABLE IV).

However, Motohashi et al. teach using pass band of 100-200 Hz for audio signal processing (column 1 lines 37-52), which would have been obvious to one of ordinary skill in the art to recognize that any channel number within that range is proper to be selected/used for resulted dual frequency tone.

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Regarding claim 9, Labedz, Reed, and Motohashi et al. teach a communication system produced to transmit and receive signals have a frequency structure as applied to claim 4.

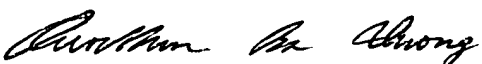
Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhiyu Lu whose telephone number is (571) 272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vuong Quochien can be reached on (571) 272-7902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Zhiyu Lu
September 12, 2006

 9/18/06
QUOCHIE B. VUONG
PRIMARY EXAMINER